

APPENDIX D

SUMMARY OF STANDARDS REQUIREMENTS, DEFECTS, AND RESTRICTIONS

D-1.

Table D-1 of this appendix presents a summary of these standards requirements, defects, and operating restrictions.

Table D-1. Summary of Standards Requirements, Defects, and Restrictions

Full Compliance				Restricted Operations		Paragraph Reference in Standards
Item	Designated Value (New or Fully Restored)	Defective (No Restriction Required)	10 mph	5 mph	No Operation	
Roadway	--	Pumping track* Erosion* Slides or slippage* Slope instability* Settlement* Washouts*	--	--	--	3-1.
Drainage	--	Water diverted onto track* Hazardous drainage structures Inadequate drainage structures Obstruction of flow	--	--	--	3-2.
Vegetation	--	--	Interferes with track inspection	Interferes with track inspection	--	3-3.b.
Ballast	--	Fouled ballast Covers top of ties* 1 to 2	--	--	--	4-3.
Ties- Consecutive defective Joint ties	0	--	3 All joint ties defective	4	5 or more	5-3.a. 5-3.b.
Missing/skewed	--	--	Spacing exceeds 48"	--	--	5-3.d.
Tie plates	--	Improper type, broken, flame cut, or defective	--	--	--	6-1.
Spikes	--	Improper type, broken, flame cut, or defective Insufficient number* Improper installation Improper spiking pattern Through slots in angle bar Loose or missing spikes* Spike beneath rail base	--	--	--	6-1. 6-3.a. 6-3.b. 6-3.c. 6-3.c.(3) 6-3.d. 6-3.e. 6-4.a.
Joints bars	--	Improper type, flame cut, or defective*	--	--	--	6-4.b.
Compromise joints	--	Improper design, or dimension, or home-made	--	--	--	6-4.c.
Joint bars- cracked or broken	--	--	One bar cracked or broken between center holes	Both bars cracked between center holes	Both bars broken, worn/ loose bars allow vertical movement of one rail with respect to other	6-4.c.
Bolts- loose or missing	None loose or missing	--	All bolts loose or only one bolt in each rail	--	All bolts in one rail are missing	6-4.e.
Rail end mismatch	0	--	GT 3/16"(0.1875")	--	GT 1/4" (0.25")	6-4.f.
Rail joint gap	--	--	GT 1.00"	--	GT 2.00"	6-4.g.
Rail- defective	--	--	See Table 7-1 in Chapter 7	--	--	7-1.
Turnouts- General	--	Improper materials Rail not same weight and section Compromise joint within turnout	--	--	--	8-2.a. 8-2.b. 8-2.b. 8-3.b.
Switch point gap	0	1/8"(0.125)	Broken/worn GT 1/2" (0.50") down and 6" back	--	1/4"(0.25")	8-3.c.
Broken/ worn points	--	--	--	--	--	8-3.d.
Point rail elevation	--	--	--	Point higher than stock rail	Point rail beyond taper lower than stock rail	8-3.e.
Lever latches or point locks	--	--	Missing, damaged, insecure, otherwise inoperative	--	--	8-3.f.
Switch stand	--	--	--	--	Lateral movement of under traffic or visible point gap due to stand movement	8-3.g.
Connecting rod, Switch rods, or Switch clips	--	--	Washers or spacers between clip and point rail	Heel bolts loose or missing, heel not fully secured	Insecurity fasteners or damaged	8-3.i.
Switch heel	--	--	--	Less than 4 fully secured, tight braces on each stock rail	--	8-3.j.
Rail Braces	--	--	--	--	--	8-4.a. 8-4.b.
Frog point wear/ damage	0	1/2"(0.50)	--	--	--	8-4.c.
Frog surface wear	0	3/8"(0.375)	--	--	--	8-4.f.
Turnouts- Self-guarded frog guarding face wear	0	3/8"(0.375)	--	--	--	8-4.g.
Frog flangeway width	1-7/8"(1.875")	LT 1-3/4"(1.75")	LT 1-5/8"(1.625")	--	LT 1-1/2" (1.50")	8-5.c.
Frog flangeway depth	GE 1-7/8"(1.875")	--	LT 1-1/2" (1.50")	--	LT 54-1/8" (54.125")	8-5.d.
Guard check gage	54-5/8"(54.625")	--	LT 54-1/4"(54.25")	--	GT 53-1/4" (53.25")	8-5.e.
Guard face gage	52-3/4"(52.75")	--	GT 53-1/8"(53.125")	--	LT 1-1/2" (1.50")	8-5.f.
Guard rail flangeway width	1-7/8"(1.875")	LT 1-3/4"(1.75")	LT 1-5/8"(1.625")	--	LT 1-1/2" (1.50")	8-5.g.
Rail crossing flangeway width	1-7/8"(1.875")	LT 1-3/4"(1.75")	LT 1-5/8"(1.625")	--	LT 1-1/2" (1.50")	9-2.b.
Rail crossing flangeway depth	GE 1-7/8"(1.875")	--	LT 1/2"(1.50")	--	LT 1-3/8" (1.375")	9-2.c.
Road crossing flangeway	2-1/2" to 3.0"	LT 2.0"	LT 1-3/4"(1.75")	--	LT 1-1/2" (1.50")	10-2.a.
Road crossing flangeway	GE 2.00"	LT 1-7/8"(1.875")	LT 1-1/2" (1.50")	--	LT 1-3/8" (1.375")	10-2.b.
Gage	56-1/2"(56.50")	--	GT 57-1/2"(57.50")	GT 57-3/4"(57.75")	LT 56.0" or GT 58.0"	12-2.d.
Crosslevel- tangent track	0	--	GT 1/12"(1.50")	GT 2-1/2"(2.50")	GE 3.00"	12-3.c.
Crosslevel- curved track	Designated superelevation	--	GT 1-1/2"(1.50")	GT 2-1/2"(2.50")	GE 3.00"	12-3.c.
Warp	0	--	GT 1-3/4"(1.75")	GT 2-1/2"(2.50")	GE 3.00"	12-5.c.
Alignment- tangent track	0	--	GT 2.00"	GT 4.00"	GE 5.00"	12-6.e.
Alignment- curved track	Degree of curvature	--	GT 2.00"	GT 4.00"	GE 5.00"	12-6.e.
Profile	--	--	GT 2-1/2"(2.50")	GT 2-3/4"(2.75")	GE 3.00"	12-7.b.

NOTES: GT = Greater Than
GE = Greater Than or Equal To
LT = Less Than
LE = Less Than or Equal To
* Operating restriction may be needed depending on the seriousness of the condition.